

ABSTRACT

ANTIMICROBIAL SUSCEPTIBILITY TEST OF PINEAPPLE CORE EXTRACT AGAINST Methicillin-resistant *Staphylococcus aureus* (MRSA)

Staphylococcus aureus is one of major pathogens causing serious infection. Antibiotic is main therapy of *Staphylococcus* infection. However, inadequate and irrational use of antibiotic causes resistance against penicillin and cephalosporin antibiotics and emerges incidence of methicillin-resistant *Staphylococcus aureus* (MRSA). Use of herbal medicine from pineapple core extract is hopefully can reduce the incidence of antibiotics resistance. This research was conducted to investigate the antimicrobial activity of pineapple core extract against methicillin-resistant *Staphylococcus aureus* (MRSA).

This research is true experimental with post-test controlled group design that was done in microbiology laboratory. Pineapple core was extracted by maceration method. Ethanol extract of pineapple core is dissolved with sterilized water. The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined by broth dilution test. Concentrations of extract used in the research were 1500, 1000, 500, 375, 250, and 125 mg/ml. Vancomycin antibiotic was used as control group. The replication used in the research was five replications. MIC was observed visually by comparing turbidity of solutions after incubation at 37°C for 24 hours. Then these solutions were cultured on nutrient agar plates at 37°C for 24 hours. MBC was observed visually by inspecting the presence of bacterial colonies growth.

The Minimum Inhibitory Concentration (MIC) could not be determined due to no turbidity changes. Cultures on nutrient agar plates had no colonies growth in concentrations of 1500 and 1000 mg/ml. Thus, the Minimum Bactericidal Concentration (MBC) was 1000 mg/ml.

Pineapple core extract contains bromelain, flavonoid, saponin, and tanin, which are based on studies shown antimicrobial effect. Pineapple has been experimentally used for antimicrobial susceptibility testing against both gram positive and gram negative bacteria and shows any antimicrobial effects. In summary, pineapple core extract has antimicrobial effect against methicillin-resistant *Staphylococcus aureus* (MRSA) with MBC of 1000 mg/ml.

Keywords: pineapple core, antimicrobial activity, dilution susceptibility test, Methicillin-resistant *Staphylococcus aureus* (MRSA).